In the claims:

1. A memory device capable of calibration, comprising:

a substrate;

an array of memory cells disposed over the substrate;

a plurality of first conductors;

a plurality of second conductors, wherein the first conductors cross the second conductors at the memory cells;

a first current source selectively coupled to the first conductors and capable of providing a first write current to selected first conductors;

a second current source selectively coupled to the second conductors and capable of providing a second write current to selected second conductors;

a controller, wherein the controller controls the application of the first and second write currents to the array of memory cells; and

a temperature sensor disposed in the memory device to sense a temperature of the memory device, wherein data from the temperature sensor are used to update the first and second write currents.

2. The memory device of claim 1, comprising:

a third current source selectively coupled to the second conductors and capable of providing a third write current to selected second conductors.

3. The memory device of claim 1, comprising:

a reference memory cell, wherein data from the reference memory cell are used to update the first and second write currents.

4. The memory device of claim 3, wherein the controller applies write currents to the reference memory cell to determine write current values that cause the reference memory cell to change state.

5. The memory device of claim 1, wherein the controller accesses stored write current values to update the first and second write currents.

6. The memory device of claim 1, wherein the memory cells are magnetic random access memory (MRAM) cells.

7. A method of calibrating a memory device, the memory device comprising an array of memory cells, a plurality of first conductors and a plurality of second conductors, the method comprising:

detecting a temperature of the memory device;

determining whether the temperature of the memory device has changed by at least a threshold value; and

updating at least one write current value if the temperature of the memory device changed by at least the threshold value.

8. The method of claim 7, wherein the step of detecting a temperature of the memory device comprises:

periodically detecting a temperature of the memory device during operation of the memory device.

9. The method of claim 7, comprising:

updating a calibration temperature by assigning the calibration temperature a value at least substantially equal to the detected temperature if the temperature of the memory device changes by at least the threshold value.

10. The method of claim 7, wherein the step of updating at least one write current value comprises:

applying a first write current and a second write current to conductors crossing at a reference memory cell.

11. The method of claim 10, wherein the step of updating at least one write current value comprises:

detecting whether a state of the reference memory cell changes.

12. The method of claim 11, wherein the step of updating at least one write current value comprises:

updating the at least one write current value according to the first write current and the second write current if the state of the reference memory cell changes.

13. The method of claim 11, wherein the step of updating at least one write current value comprises:

increasing the first write current and the second write current if the state of the reference memory cell does not change.

14. The method of claim 7, wherein the step of updating at least one write current value comprises:

a. applying a first write current and a second write current to conductors crossing at a reference memory cell;

b. detecting a state of the reference memory cell;

c. increasing the first write current and the second write current if the state of the reference memory cell does not change;

d. repeating steps a-c until the state of the reference memory cell changes from a first state to a second state; and

e. updating the at least one write current value according to the first write current and the second write current when the state of the reference memory cell changes.

15. The method of claim 14, wherein the step of updating at least one write current value comprises:

f. applying a third write current and a fourth write current to the conductors crossing at the reference memory cell;

g. detecting a state of the reference memory cell;

h. increasing the third write current and the fourth write current if the state of the reference memory cell does not change;

d. repeating steps f-h until the state of the reference memory cell changes from the second state to the first state; and

e. updating the at least one write current value according to the third write current and the fourth write current when the state of the reference memory cell changes.

16. The method of claim 7, wherein the step of detecting a temperature of the memory device comprises:

detecting a temperature of the array of memory cells.

17. The method of claim 7, wherein the wherein the step of updating at least one write current value comprises:

accessing at least one stored write current value associated with the detected temperature.

18. A method of filling a table with write current values for use in calibrating a memory device, wherein the write current values are associated with temperature values, the memory device comprising an array of memory cells, a plurality of first conductors and a plurality of second conductors, the method comprising:

a. applying a first write current and a second write current to conductors crossing at a reference memory cell when the memory array is at a temperature;

b. detecting a state of the reference memory cell;

c. increasing the first write current and the second write current if the state of the reference memory cell does not change;

d. repeating steps a-c until the state of the reference memory cell changes from a first state to a second state; and

e. storing the first write current value and the second write current value that cause the state of the reference memory cell to change, wherein the first and second write current values are associated with the temperature.

19. The method of claim 18, comprising:

f. changing the temperature of the array;

g. repeating steps a-c until the state of the reference memory cell changes from a first state to a second state; and

h. storing the first write current value and the second write current value that cause the state of the reference memory cell to change, wherein the first and second write current values are associated with the temperature.

20. The method of claim 18, comprising:

i. applying a third write current and a fourth write current to conductors crossing at the reference memory cell when the memory array is at a temperature;

j. detecting a state of the reference memory cell;

k. increasing the third write current and the fourth write current if the state of the reference memory cell does not change;

l. repeating steps i-k until the state of the reference memory cell changes from the second state to the first state; and

m. storing the third write current value and the fourth write current value that cause the state of the reference memory cell to change, wherein the third and fourth current values are associated with the temperature.